

AFTER FINAL EXPEDITED PROCEDURE

Appl. No. 09/991,598
Amdt. dated October 7, 2005
Reply to Office Action of June 30, 2005

REMARKS

Claims 1 to 21 were pending in the Application at the time of examination. The Examiner rejected Claims 1 to 21 under 35 U.S.C. 103(a) as obvious over the Dukach et al. reference (US 6,609,159 B1) in view of the Woodring et al reference (US 6,519,686 B2).

Claims 1 to 21 remain in the Application.

REJECTION OF CLAIMS 1 TO 21 UNDER 35 U.S.C. 103(a)

The Examiner rejected Claims 1 to 21 under 35 U.S.C. 103(a) as obvious over the Dukach et al. reference (US 6,609,159 B1) in view of the Woodring et al reference (US 6,519,686 B2).

Applicants' Claim 1 recites, with emphasis added:

A method for moving data between processes in a computer-based system, each process calling for one or more symbols in a first library, the method comprising:

associating each process with a second library, said second library comprising one or more symbols with a door interprocess communication mechanism, said door interprocess mechanism enabling each process to communicate a synchronization signal, said one or more symbols enabling data communication through a mapped memory based on said synchronization signal;

intercepting a call from each process for a symbol in said first library by interposition; and

redirecting said call to a corresponding symbol in said second library by interposition.

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Applicants Claim 7, as amended, recites, with emphasis added:

A program storage device readable by a machine, tangibly embodying a program of instructions readable by the machine to perform a method for moving data between processes in a computer-based system, each process calling for one or more symbols in a first library, the method comprising:

associating each process with a second library, said second library comprising one or more symbols with a door interprocess communication mechanism, said door

interprocess mechanism enabling each process to communicate a synchronization signal, said one or more symbols enabling data communication through a mapped memory based on said synchronization signal;

intercepting a call from each process for a symbol in said first library by interposition; and

redirecting said call to a corresponding symbol in said second library by interposition

Applicants Claim 13 recites, with emphasis added:

An apparatus for moving data between process in a computer-based system, the apparatus comprising:

a plurality of processes;

a mapped memory;

a first library having one or more symbols, said plurality of processes calling for said one or more symbols in said first library of symbols;

a second library having one or more symbols, said one or more symbols associated

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with a door interprocess communication mechanism; and

an interposer intercepting a call from a process for said one or more symbols in said first library and redirecting a call for corresponding said one or more symbols in said second library.

Applicants Claim 21, as amended, recites, with emphasis added:

An apparatus for moving data between processes in a computer-based system, each process calling for one or more symbols in a first library, the apparatus comprising:

means for associating each process with a second library, said second library comprising one or more symbols with a door interprocess communication mechanism, said door interprocess mechanism enabling each process to communicate a synchronization signal, said one or more symbols enabling data communication through a mapped memory based on said synchronization signal;

interposer means for intercepting a call from each process for a symbol in said first library; and

interposer means for redirecting said call to a corresponding symbol in said second library.

As shown above, each of Applicants independent Claims 1, 7, 13 and 21 includes the recited feature of a door interprocess communication mechanism, said door interprocess mechanism enabling each process to communicate a synchronization signal and/or an interposer/interposition, or words to that effect.

The Examiner has previously stated, with emphasis added:

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...Dukack (sic) teaches the invention substantially as claimed including: data (information, col 3, ln 35-42), data between processes in a computer-based system (col 6, ln 35-40/col 8, ln 37-42), one or more symbols (OS function 144, col 8, ln 55-62), the first library (the library of the OS 134, col 8 ln 52-55), process calling for one or more symbols in a first library (col 8, ln 58-62), associating each process with a second library (col 8, ln 36-37), a second library (the interposed library, col 8, ln 36-37/ln 60-65), one or more symbols of the second library(the interposed library function col 8, ln 52-65), a **door interprocess communication** (file descriptor, col 3, ln 62-64/col 10, ln 33-34/ln 53-55), said **door interprocess mechanism enabling each process to communication** (col 15, ln1-6/col 16, ln 15-21), **interprocess communication mechanism(interprocess communication links, col 8, ln 40-46)**, intercepting a call from each process for a symbol in said first library(col 8, ln 58-65/col 9, ln 24-30), redirecting said call to a corresponding symbol in said second library(col 8, ln 63-65).

Applicants first note that Dukach's column 8, lines 35 to 65 reads as follows, with emphasis added:

The back end server and the interposed library which is linked to it, are one process. The front end server is another. The OS accords each separate process its own separate subspace within the common OS space. **A given process cannot directly write to another process's sub-space, but the OS does let it communicate with another processes in the same OS space through interprocess communication links, or pipes. Such pipes are defined and only work within a given OS space defined by a given OS kernel.**

Although it is not mentioned elsewhere in this specification, those skilled in the computer arts will understand that the OS normally runs processes in virtual memory, i.e., a memory space larger than that which will fit in RAM at one time, and

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automatically swaps portions of this virtual memory space in and out of memory from and to the hard disk, as needed for current computations.

As stated above, the back end server is linked to the interposed dynamically-loaded library 116. The back end server is also linked to the library of the OS 134. As is shown in FIG. 10, the interposed library includes functions 144A, such as bind(), listen(), and accept(), having some of the same names as the functions 144 contained in the OS's network library 142. Since the interposed library is linked to the back end server with a higher precedence than the OS's library, if the back end server calls a named OS function 144 for which there is a similarly named interposed library function 144A, the call will be intercepted by the interposed library function. This means the back end server process's program control will go to the interposed library function 144A, rather than to the similarly named OS function 144.

As shown above, Dukach specifically discloses, teaches and suggests that the interprocess communication links are pipes. Indeed Dukach discloses, teaches and suggests that "interprocess communication links" and "pipes" are identical terms by reciting "**interprocess communication links, or pipes...**" Consequently, Applicants respectfully submit that Dukach specifically discloses, teaches and suggests that pipes are the only form of interprocess communication link suitable for use with Dukach's structure and that Dukach specifically rules out, and teaches away from, the use of any other form of interprocess communication link.

Pipes, such as those specifically disclosed and taught in Dukach, are discussed in the "BACKGROUND OF THE INVENTION SECTION" of Applicants Specification at, for example page 2, line 18 to page 3, line 7. Pipes, such as those specifically disclosed and taught in Dukach, are also shown in Applicants FIG.1, clearly marked a "Prior Art". Page 2, line 18 to page

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3, line 7 of Applicants Specification reads as follows, with emphasis added:

Interprocess communication (IPC) is the exchange of data between two or more processes. **Various forms of IPC exists: pipes, sockets, shared memory, message queues, and Solaris™ doors.**

A pipe provides the ability for a byte of data to flow in one direction and is used between processes. These two processes must be of common ancestry. Typically, a pipe is used to communicate between two processes such that the output of one process becomes the input of another process. FIG. 1 illustrates a conventional pipe 100 according to a prior art. The output of process 102 becomes the input of process 104. Pipe 100 is terminated when process 102 that is referencing it terminates. Data is moved from process 102 to process 104 through a pipe 100 situated within a kernel 106.

As shown above, **Applicants clearly distinguish pipes as distinct from doors** and then explain some of the limitations of pipes. As noted above, the Examiner then goes on to state that Dukach teaches :

a door interprocess communication (file descriptor, col 3, ln 62-64/col 10, ln 33-34/ln 53-55), said door interprocess mechanism enabling each process to communication (col 15, ln1-6/col 16, ln 15-21)

Page 5 lines 3 to 11 of Applicants' Specification reads as follows:

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The fastest form of IPC on Solaris™ Operating System from Sun Microsystems Inc. is doors. However, applications that want to communicate using doors need to be explicitly programmed to do so. Even though doors IPC is very fast, the socket-based IPC is more popular since it is portable, flexible, and can be used to communicate across a network.

A definite need exists for a fast IPC technology that would overcome the drawbacks of doors and socket-based IPC. Specifically, a need exists for a fast socket technology implementation using doors. A primary purpose of the present invention is to solve these needs and provide further, related advantages.

In light of the discussion above, Applicants respectfully submit that, contrary to the Examiners' comments, the disclosure of a "file descriptor" in the Dukach reference is not a disclosure, teaching or suggestion of the "doors" recited in Applicants Claims 1, 7, 13 and 21.

In making the rejection final in the June 30, 2005 Office Action, the Examiner failed to address the distinction between a "file descriptor" as disclosed in Dukach, and "doors" as recited in Applicants' Claims. The Examiner failed to address this issue despite the fact that Applicants specifically pointed out that the disclosure of a "file descriptor" in the Dukach reference is not a disclosure, teaching or suggestion of the "doors" recited in Applicants Claims 1, 7, 13 and 21. Applicants respectfully submit that making a final rejection without addressing Applicants' arguments in the previous amendment is improper and an abuse of the Final Office Action powers that prevents Applicants' invention from receiving the consideration it is assured under the patent law. Consequently, Applicants submit that, at a minimum, the

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finality of this action should be removed until all of Applicants issues have been addressed by the Examiner.

In addition, Applicants again respectfully submit that contrary to the Examiners' comments, the disclosure of a "file descriptor" in the Dukach reference is not a disclosure, teaching or suggestion of the "doors" recited in Applicants Claims 1, 7, 13 and 21. Applicants further submit that, in light of this fact, the Examiner has failed to show a disclosure, teaching or suggestion of the "doors" recited in Applicants Claims 1, 7, and 21.

Applicants further submit that the addition of the Woodring et al reference does nothing to cure these basic deficiencies of the Dukach et al reference. Consequently, Applicants respectfully submit that the Examiner has failed to show where in the Dukach et al reference, Woodring et al reference, or any proper combination of the Dukach et al reference and Woodring et al reference, it is disclosed, taught or suggested a door interprocess communication mechanism, said door interprocess mechanism enabling each process to communicate a synchronization signal or an interposer/interposition mechanism.

In light of the discussion above, Applicants respectfully request the Examiner withdraw the rejection of Claims 1, 7, 13 and 21 under 35 U.S.C. 103(a) and allow Claims 1, 7, 13 and 21 to issue.

Claims 2 to 6 depend, directly or indirectly on Claim 1, as amended. Consequently Claims 2 to 6 include all of the features of Claim 1, as amended. Claims 8 to 12 depend, directly or indirectly on Claim 7, as amended. Consequently Claims 8 to 12 include all of the features of Claim 7, as amended. Claims 14 to 20 depend, directly or indirectly on Claim 13. Consequently Claims 14 to 20 include all of the features of Claim 13. Therefore, Applicants respectfully

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request the Examiner withdraw the rejection of Claims 2 to 6, 8 to 12 and 14 to 20 under 35 U.S.C. 103(a) and allow Claims 2 to 6, 8 to 12 and 14 to 20 to issue

CONCLUSION

For the foregoing reasons, Applicants respectfully request allowance of all pending claims. In addition, Applicants again point out that in making the rejection final in the June 30, 2005 Office Action, the Examiner failed to address the distinction between a "file descriptor" as disclosed in Dukach, and "doors" as recited in Applicants' Claims. The Examiner failed to address this issue despite the fact that Applicants specifically pointed out that the disclosure of a "file descriptor" in the Dukach reference is not a disclosure, teaching or suggestion of the "doors" recited in Applicants Claims 1, 7, 13 and 21. Applicants again respectfully submit that making a final rejection without addressing Applicants arguments in the previous amendment is improper and an abuse of the Final Office Action powers that prevents Applicants' invention from receiving the consideration it is assured under the patent law. Consequently, Applicants submit that, at a minimum, the finality of this action should be removed until all of Applicants issues have been addressed by the Examiner.

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If the Examiner has any questions relating to the above,
the Examiner is respectfully requested to telephone the
undersigned Attorney for Applicants.

CERTIFICATE OF MAILING

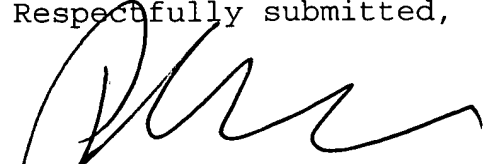
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United States Postal Service with sufficient postage as first class mail
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1450, Alexandria, VA 22313-1450, on October 7, 2005.



Attorney for Applicants

October 7, 2005
Date of Signature

Respectfully submitted,



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